Flashback of laminar premixed flame in rotating burner

Abstract

Laminar premixed flame during flashback of rotating burner has been investigated experimentally. The effect of rotating speed on flame flashback has been closely examined. The flame stability map which featuring stability curves in term of flashback has been introduced. The study discovers the possibility of flashback occurrence at various different values of rotating speed and equivalent ratio. The flame flashback stability curves show the flashback threshold for the air-methane mixture at certain swirl number. In addition, this study suggest that for swirling burners the flame stability curves should be presented as function of swirl number.